INDEX

Agnon, Y. & Mei, C. C. Trapping and resonance of long shelf waves due to groups of short waves, 201–221

Auzerais, F. M., Jackson, R. & Russel, W. B. The resolution of shocks and the effects of compressible sediments in transient settling, 437–462

Bankoff, S. G. *See* Burelbach, Bankoff & Davis

Benjamin, T. B. & Mullin, T. Buckling instabilities in layers of viscous liquid subjected to shearing, 523–540

Berger, S. A. *See* Hamakiotes & Berger

Bossis, G. *See* Brady, Phillips, Lester & Bossis

Brady, J. F., Phillips, R. J., Lester, J. C. & Bossis, G. Dynamic simulation of hydrodynamically interacting suspensions, 257–280

Burelbach, J. P., Bankoff, S. G. & Davis, S. H. Nonlinear stability of evaporating/condensing liquid films, 463–494

Cheng, H. K. *See* Hefazi & Cheng

Davis, S. H. *See* Burelbach, Bankoff & Davis

Fernández de la Mora, J. & Riesco-Chueca, P. Aerodynamic focusing of particles in a carrier gas, 1–21

Ffowcs Williams, J. E. & Guo, Y. P. Sound generated from the interruption of a steady flow by a supersonically moving aerofoil, 113–135

Grappin, R., Leorat, J. & Londrillo, P. Onset and development of turbulence in two-dimensional periodic shear flows, 239–256

Guo, Y. P. *See* Ffowcs Williams & Guo

Hamakiotes, C. C. & Berger, S. A. Fully developed pulsatile flow in a curved pipe, 23–55

Hefazi, H. T. & Cheng, H. K. The evolution of cyclonic disturbances and lee waves over a topography in a rapidly rotating, stratified flow, 57–76

Helland, K. N. *See* Rohr, Itsweire, Helland & Van Atta

Henry, D. & Roux, B. Soret separation in a quasi-vertical cylinder, 175–200

Hill, N. A. *See* Pedley, Hill & Kessler

Itsweire, E. C. *See* Rohr, Itsweire, Helland & Van Atta

Jackson, R. *See* Auzerais, Jackson & Russel

Kessler, J. O. *See* Pedley, Hill & Kessler

Lemonnier, H. & Rowe, A. Another approach in modelling cavitating flows, 557–580

Leorat, J. *See* Grappin, Leorat & Londrillo

Lester, J. C. *See* Brady, Phillips, Lester & Bossis

List, E. J. *See* Papanicolaou & List

Londrillo, P. *See* Grappin, Leorat & Londrillo

McWilliams, J. C. *See* Melander, Zabusky & McWilliams

Mei, C. C. *See* Agnon & Mei

INDEX

Agnon, Y. & Mei, C. C. Trapping and resonance of long shelf waves due to groups of short waves, 201–221

Auzerais, F. M., Jackson, R. & Russel, W. B. The resolution of shocks and the effects of compressible sediments in transient settling, 437–462

Bankoff, S. G. *See* Burelbach, Bankoff & Davis

Benjamin, T. B. & Mullin, T. Buckling instabilities in layers of viscous liquid subjected to shearing, 523–540

Berger, S. A. *See* Hamakiotes & Berger

Bossis, G. *See* Brady, Phillips, Lester & Bossis

Brady, J. F., Phillips, R. J., Lester, J. C. & Bossis, G. Dynamic simulation of hydrodynamically interacting suspensions, 257–280

Burelbach, J. P., Bankoff, S. G. & Davis, S. H. Nonlinear stability of evaporating/condensing liquid films, 463–494

Cheng, H. K. *See* Hefazi & Cheng

Davis, S. H. *See* Burelbach, Bankoff & Davis

Fernández de la Mora, J. & Riesco-Chueca, P. Aerodynamic focusing of particles in a carrier gas, 1–21

Ffowcs Williams, J. E. & Guo, Y. P. Sound generated from the interruption of a steady flow by a supersonically moving aerofoil, 113–135

Grappin, R., Leorat, J. & Londrillo, P. Onset and development of turbulence in two-dimensional periodic shear flows, 239–256

Guo, Y. P. *See* Ffowcs Williams & Guo

Hamakiotes, C. C. & Berger, S. A. Fully developed pulsatile flow in a curved pipe, 23–55

Hefazi, H. T. & Cheng, H. K. The evolution of cyclonic disturbances and lee waves over a topography in a rapidly rotating, stratified flow, 57–76

Helland, K. N. *See* Rohr, Itsweire, Helland & Van Atta

Henry, D. & Roux, B. Soret separation in a quasi-vertical cylinder, 175–200

Hill, N. A. *See* Pedley, Hill & Kessler

Itsweire, E. C. *See* Rohr, Itsweire, Helland & Van Atta

Jackson, R. *See* Auzerais, Jackson & Russel

Kessler, J. O. *See* Pedley, Hill & Kessler

Lemonnier, H. & Rowe, A. Another approach in modelling cavitating flows, 557–580

Leorat, J. *See* Grappin, Leorat & Londrillo

Lester, J. C. *See* Brady, Phillips, Lester & Bossis

List, E. J. *See* Papanicolaou & List

Londrillo, P. *See* Grappin, Leorat & Londrillo

McWilliams, J. C. *See* Melander, Zabusky & McWilliams

Mei, C. C. *See* Agnon & Mei

Melander, M. V., Zabusky, N. J. & McWilliams, J. C. Symmetric vortex merger in two dimensions: causes and conditions, 303–340

Mullin, T. *See* Benjamin & Mullin

Nakabayashi, K. & Tsuchida, Y. Modulated and unmodulated travelling azimuthal waves on the toroidal vortices in a spherical Couette system, 495–522

Papanicolaou, P. N. & List, E. J. Investigations of round vertical turbulent buoyant jets, 341–391

Pedley, T. J., Hill, N. A. & Kessler, J. O. The growth of bioconvection patterns in a uniform suspension of gyrotactic micro-organisms, 223–237

Peregrine, D. H. *See* Teles da Silva & Peregrine

Phillips, R. J. *See* Brady, Phillips, Lester & Bossis

Purnama, A. Boundary retention effects upon contaminant dispersion in parallel flows, 393–412

Riesco-Chueca, P. *See* Fernández de la Mora & Riesco-Chueca

Rohr, J. J., Itsweire, E. C., Helland, K. N. & Van Atta, C. W. Growth and decay of turbulence in a stably stratified shear flow, 77–111

Roux, B. *See* Henry & Roux

Rowe, A. *See* Lemonnier & Rowe

Russel, W. B. *See* Auzerais, Jackson & Russel

Smith, R. Time-dependent releases of solute in parallel flows, 587–595

Teles da Silva, A. F. & Peregrine, D. H. Steep, steady surface waves on water of finite depth with constant vorticity, 281–302

Tsuchida, Y. *See* Nakabayashi & Tsuchida

Van Atta, C. W. *See* Rohr, Itsweire, Helland & Van Atta

Wang, C. Y. Drag of a corrugated plate in a rotating fluid, 581–586

Wang, K. C. *See* Xu & Wang

Weisbrot, I. *See* Wygnanski & Weisbrot

Weisbrot, I. & Wygnanski, I. On coherent structures in a highly excited mixing layer, 137–159

Wygnanski, I. *See* Weisbrot & Wygnanski

Wygnanski, I. & Weisbrot, I. On the pairing process in an excited plane turbulent mixing layer, 161–173

Xu, W. C. & Wang, K. C. Unsteady laminar boundary layer along the symmetry plane of an impulsively started prolate spheroid, 413–435

Yoshizawa, A. Statistical modelling of passive-scalar diffusion in turbulent shear flows, 541–555

Zabusky, N. J. *See* Melander, Zabusky & McWilliams

Volume 195 October 1988

CONTENTS

Aerodynamic focusing of particles in a carrier gas. J. Fernández de la Mora and P. Riesco-Chueca *page* 1

Fully developed pulsatile flow in a curved pipe. Costas C. Hamakiotes and Stanley A. Berger 23

The evolution of cyclonic disturbances and lee waves over a topography in a rapidly rotating, stratified flow. Hamid T. Hefazi and K. K. Cheng 57

Growth and decay of turbulence in a stably stratified shear flow. J. J. Rohr, E. C. Itsweire, K. N. Helland and C. W. Van Atta 77

Sound generated from the interruption of a steady flow by a supersonically moving aerofoil. J. E. Ffowcs Williams and Y. P. Guo 113

On coherent structures in a highly excited mixing layer. I. Weisbrot and I. Wygnanski 137

On the pairing process in an excited plane turbulent mixing layer. I. Wygnanski and I. Weisbrot 161

Soret separation in a quasi-vertical cylinder. D. Henry and B. Roux 175

Trapping and resonance of long shelf waves due to groups of short waves. Yehuda Agnon and Chiang C. Mei 201

The growth of bioconvection patterns in a uniform suspension of gyrotactic micro-organisms. T. J. Pedley, N. A. Hill and J. O. Kessler 223

Onset and development of turbulence in two-dimensional periodic shear flows. Roland Grappin, Jacques Leorat and Pasquale Londrillo 239

Dynamic simulation of hydrodynamically interacting suspensions John F. Brady, Ronald J. Phillips, Julia C. Lester and Georges Bossis 257

Steep, steady surface waves on water of finite depth with constant vorticity. A. F. Teles da Silva and D. H. Peregrine 281

Symmetric vortex merger in two dimensions: causes and conditions. M. V. Melander, N. J. Zabusky and J. C. McWilliams 303

Investigations of round vertical turbulent buoyant jets. Panos N. Papanicolaou and E. John List 341

Boundary retention effects upon contaminant dispersion in parallel flows. Anton Purnama 393

Unsteady laminar boundary layer along the symmetry plane of an impulsively started prolate spheroid. W. C. Xu and K. C. Wang 413

The resolution of shocks and the effects of compressible sediments in transient settling. F. M. Auzerais, R. Jackson and W. B. Russel 437

Nonlinear stability of evaporating/condensing liquid films. J. P. Burelbach, S. G. Bankoff and S. H. Davis 463

Modulated and unmodulated travelling azimuthal waves on the toroidal vortices in a spherical Couette system. Koichi Nakabayashi and Yoichi Tsuchida 495

Buckling instabilities in layers of viscous liquid subjected to shearing. T. Brooke Benjamin and T. Mullin 523

Statistical modelling of passive-scalar diffusion in turbulent shear flows. Akira Yoshizawa 541

Another approach in modelling cavitating flows. H. Lemonnier and A. Rowe 557

Drag of a corrugated plate in a rotating fluid. C. Y. Wang 581

Time-dependent releases of solute in parallel flows. Ronald Smith 587

Reviews

An Informal Introduction to Theoretical Fluid Mechanics, by James Lighthill 596

General Circulation of the Ocean, edited by Henry D. I. Abarbanel and W. R. Young 598

Index to Volume 195 600